Page 1

June-15-12 1:32:38 PM

Item ID:

D206-642-541

Accept \*N900040100\*

Setup Start

Item Name:

Replacement Skidtube

**Cust Item ID:** 

**Start Date: Required Date:** 29/06/2012

15/06/2012 Start Qty: 1.00 Req'd Qty: 1.00

Photocopy bluefile & type labels per PPP D206-642-541

**Customer:** 

Reference:

**Revision ID:** 

Approvals: **Process Plan:**  Date: 17/06

Date:

QC:

Date:

**SPC (Y/N):** 

Date:

Tool #

Stop

Sequence ID/ **Work Center ID** 

Operation Description Set Up/ **Run Hours**  Tool ID

Plan Code

Accept Qty

Reject **Qty** 

Run

Reject Insp. Number Stamp

Draw Nbr

**Revision Nbr** 

D3274 D

\*100\*

100

DOCUMENT CONTROL

DC

Memo

0.00

0.00

CHG003

Document Control

									<del></del>
W/O:				ORK ORDER CHANG	ES			3	· · · · · · · · · · · · · · · · · · ·
DATE	STEP	PRO	OCEDURE CH	IANGE	Ву	Date	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
Part No		PAR #:	Fault Ca	tegory:	NCR: Ye	s No I	DQA:	Date: _	
	Re	esolution:						Date: _	
NCR:		'	WORK OR	DER NON-CONFORMA	NCE (NC	R)			
DATE	STEP	Description of NC		Corrective Action Section	on B Sigr		rification		Approval
	0.2.	Section A	Initial Chief Eng	Action Description Chief Eng	Dat		Section C	Chief Eng	QC Inspector
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June-15-12 1:32:38 PM

Item ID:

D206-642-541

Accept

\*N900040100\*

Setup Start \*NS1\*

Stop \*NS2\*

Revision ID: Item Name:

Start Date:

Replacement Skidtube

15/06/2012

Start Qty: 1.00 Reg'd Qty: 1.00 \*1\*

Cust Item ID:

Customer:

Reference:

Approvals: Process

**Required Date:** 29/06/2012

Process Plan:

Date:

Tooling:

Date:

Run Start 🛧

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Tool #

Stop

\*NR2

Sequence JD/ Work Center ID

Operation Description

Set Up/ Run Hours Tool ID

Plan Code Accept Qty Reject R Qty N

Reject Insp. Number Stamp

110

\*11**∩**\*
Skidtubes

Skidtubes

Skidtubes

Memo

0.00

0.00

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD and foilo 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

DO

12-7-13

3- weld fwd cap as per dwg D3274 and QSI004.

AR Aluminum Rod Batch: 

M20/64

4- grind fwd cap weld on top surface only

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

De 12/07/16

Dail Ac	Ospace	s Llu		•					•
W/O:			WO	RK ORDER CHANG	ES				, ,
DATE	STEP	PRO	OCEDURE CHAI	IGE	Ву	Date	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
,									
Part No	•	PAR #:	Fault Categ	jory:	_ NCR: Yes	No DQ	A:	Date: _	
	R	esolution:						Date: _	
NCR:			WORK ORDE	R NON-CONFORMA	ANCE (NC	R)			
DATE	CTED	Description of NC		Corrective Action Section		Verifi	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Date		ion C	Chief Eng	QC Inspector
	:								

\*Work Order ID 85825 June-15-12 1:32:38 PM Item ID: D206-642-541 Accept \*N900040100\* Setup Start **Revision ID:** Replacement Skidtube Item Name: **Start Date:** 15/06/2012 Start Oty: 1.00 **Cust Item ID: Required Date: 29/06/2012** Req'd Qty: 1.00 **Customer:** Reference: Run **Approvals: Process Plan:** Date: Tooling: Date: QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Tool # Set Up/ Tool ID Plan Accept Reject Reject **Work Center ID** Description **Run Hours** Qty Qty Code Number 114 QC5- Inspect part completeness to step on W/O 0.00 \*114\* QC Memo **Quality Control** 116 QC10- Inspect visual per QSI004- ground welds

OC

Quality Control

120

\*120\*

HandFinish Hand Finishing

Memo

Memo

Chemical Conversion Coat per OSI005 4.1

0.00

0.00

1- 76 12-7-17

Page 3

Insp.

Stamp

Dart Aerospace I	Ltd
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W/O:			V	VORK ORDER CHANG	ES					,* .
DATE	STEP	PRO	CEDURE CH	DURE CHANGE By Date Qty   c					Approval Chief Eng / Prod Mgr	Approval QC Inspector
								i		
Part No		PAR #:	Fault Ca	tegory:	NCR: Ye	s No	DQA		-	
	R	esolution:	Disposit	ion: '	_ QA: N/C	Close	d:		Date: _	
NCR:		<b>V</b>	VORK OR	DER NON-CONFORMA	ANCE (NO	CR)				
DATE	STEP	Description of NC		Corrective Action Secti			Verifica	ation	Approval	Approval
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sig Da	n &	Sectio		Chief Eng	QC Inspector
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				·						
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Page 4

June-15-12 1:32:38 PM

**Required Date:** 29/06/2012

Item ID: **Revision ID:**  D206-642-541

Replacement Skidtube

Accept

\*N900040100\*

Setup Start

Item Name: **Start Date:** 

15/06/2012

Start Qty: 1.00 Req'd Qty: 1.00

**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

**Process Plan:** 

Date:

**Tooling:** 

Date:

Tool#

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID

**Operation** Description Set Up/ **Run Hours**  Tool ID

Plan Code

Accept Qty

Reject **Qty** 

Reject Number Stamp

Insp.

\*130\*

130

OC Quality Control

Memo

QC7-Inspect Chemical Conversion Coat

0.00

0.00

Run

150

\*150\*

Skidtubes

Memo

0.00

0.00

Skidtubes Skidtubes

1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274

2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 & QSI 015.

A/RSikaflex-291 M122170

Sikaflex expire date: 13-3

Start: 12.7:17 Time: Finish: 1207-24 Time: 2

(Adhere for 12 hours)

CF 12-7-17

W/O:			V	<b>NORK ORDER CHAN</b>	GES					•			
DATE	STEP	PRO	OCEDURE CI	HANGE	* '\	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
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Part No	:	PAR #:	Fault Ca	ategory:	NC	R: Yes	No DQA	\:	Date:				
	R	esolution:	Disposi	tion:	QA	: N/C Cld	sed:						
NCR:		50	WORK OR	DER NON-CONFORM	MANCE	E (NCR	)						
DATE	STEP	Description of NC	Initial		ection B	on B Sign &		ation	Approval	Approval			
	J	Section A	Chief Eng	Action Description Chief Eng	1	Date	Section	n C	Chief Eng	QC Inspector			
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Page 5

June-15-12 1:32:38 PM

**Required Date:** 29/06/2012

Item ID:

D206-642-541

15/06/2012

Accept

\*N900040100\*

Setup Start

**Revision ID:** 

**Start Date:** 

Item Name:

Replacement Skidtube

**Cust Item ID:** 

**Customer:** 

Reference:

Approvals:

**Process Plan:** 

QC:

Date: Date: **Tooling:** 

Date: Date:

Tool#

Run

Stop

Sequence ID/ Work Center ID

**Operation** Description

Start Otv: 1.00

Req'd Qty: 1.00

Set Up/ **Run Hours**  Tool ID

Plan Code

Accept Qty

Reject Qty

Reject Insp. Number Stamp

160

170

QC5- Inspect part completeness to step on W/O

SPC (Y/N):

0.00

0.00

\*160\* QC

Quality Control

Memo

Skidtubes

\*170\* Skidtubes

Skidtubes

Memo

0.00

0.00

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297". Deburr

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE

DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

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W/O:			WORK ORDER CHANGES									
DATE	STEP	PROC	EDURE CHA	NGE	Ву	Date Q	ty Approval Chief Eng / Prod Mgr	Approval QC Inspector				
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				7								
	·			:								
Part No		PAR #:	_ Fault Cate	gory: NC	R: Yes	No DQA: _	Date: _	Date:				
	R	esolution:	_ Dispositio	n: QA	: N/C Cld	sed:	Date: _					
NCR:		W V	ORK ORDI	ER NON-CONFORMANCE	E (NCR	)						
DATE	OTED	Description of NC		Corrective Action Section B		Verification	on Approval	Approval				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C		QC Inspector				
		•										
<u>.</u>												
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Page 6

June-15-12 1:32:38 PM

Item ID: D206-642-541 Accept Setup Start **Revision ID:** Item Name: Replacement Skidtube Start Qty: 1.00 **Start Date:** 15/06/2012 **Cust Item ID: Required Date:** 29/06/2012 Req'd Qty: 1.00 **Customer:** Reference: Run Process Plan: **Approvals:** Date: **Tooling:** Date: QC: SPC (Y/N): Date: Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject . Accept Reject **Work Center ID Description Run Hours** Code Qty Qty Number Stamp 180 QC5- Inspect part completeness to step on W/O 0.00 \*120\* QC 0.00 Memo Quality Control 190 0.00 Skidtubes \*190\* Skidtubes 0.00 Memo Skidtubes 1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod A/RAluminum Rod 3-Grind cross bolt welds flush as per Dwg D3274. 4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

W/O: &5	825	WORK ORDER CHA	WORK ORDER CHANGES											
DATE	STEP	PROCEDURE CHANGE	Ву		Date	te Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector						
<b>!</b>														
			9											

Part No: <u>D706 ~ 647 - 34  </u> PAR #:	Fault Category: LANDIN (70 PR. /	SKID July NCR: (es) No	DQA:	7 Date: 12/08/17
Resolution: Accetable.	Pault Category: Landing Green / Disposition: Accatale	QA: N/C Closed	I: <u>MO</u> "	Date: 12/08/20

NCR:	2-1699	WORK ORDER NON-CONFORMANCE (NCR)										
		Description of NC		Corrective Action Section B		Verification	Approval	Approval				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector				
12/09/12	* 190.4	Found At inspection that the country boxes were no Deco measure 0.880"-0.830" should be 0.450"+.030"	12/11	Accatable. per Email From Chris P to Davin S. July 27 1/22 See Attaches . Email	12-7-2		12; 12;	745 16 16 18/27				
		R.C. Country bore tool was not set correctly operator Error LOA - PROCESS.		RC: SHOULD HAVE NOTE TO OPERATOR TO CHECK TO PRIOR TO USING		17102130						

#### **Linda Lacelle**

From:

Chris Provencal <cprovencal@dartaero.com>

Sent:

July-27-12 11:15 AM

To:

**David Shepherd** 

Cc:

psmith@dartaero.com; 'L Lacelle'; 'Isam El-Kassis'; 'Eric Downing'; Mike Petsche

Subject:

RE: D206 skids

#### David,

The affected tubes are several float (-541) and regular tubes (-351). The float holes aren't counterbored and are unaffected. As the crossbolt spacers are not loaded except in bearing by the bushings, the additional length of the counterbore would have no effect on the strength of the crossbolt spacer from regular loading conditions. There would be a small reduction in buckling strength from sideways crushing loads, which doesn't represent a critical loading condition per the FAR requirements.

I will accept these tubes based on that rational. This email is an FYI in case you have an objection.

#### -Chris

From: Eric Downing [mailto:edowning@dartaero.com]

Sent: Friday, July 27, 2012 8:34 AM

To: 'Provencal, Chris'

Cc: psmith@dartaero.com; 'L Lacelle'; Isam El-Kassis

**Subject:** D206 skids **Importance:** High

#### **Good morning Chris**

I need to see you as soon as you read this message I have found the counter bore depth on QTYX9 D206 skids are too deep. I am measuring 0.820"-0.830" and it should be at 0.75+/-0.030". I have 6 in progress and 3 already painted and assembled. What happened was that I had inspected some 206 skids and found that the counter bore was correct but I didn't know that they had changed the counter bore part way through the day and was not set up correctly so I had assumed that they were still the same depth and when I measured the first one today like I do always the depth was not correct at all.

I need to know if this will be acceptable or that we need to rework all the skids.

Thanks
Eric Downing
QC Corrdinator
Dart Aerospace LTD

										DQA:	Date:	
NCR:	Yes / No				WORK ORDER NON-	CON	FORM	MANCE / UPD		QA Closed:	Date:	
Work Orde	er.				DISPOSITION		***************************************		AGAINST DE		/PROCESS	
Part No.  NCR No.					Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube Small Fab Thermoforming Finishing Composite				Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Descri	ption of work order update	In	itial	Actio	on	Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Chi	ef Eng	Descri	ption	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling		1										
Operator		]										
Material	7											
Setup												
Other												
Process												
Supplier												
Training												
Unapproved												
-					F	AULT	CATE	GORY				
Landi	ng Gear				General						<u></u>	-
	Bending				Bend	Ш	Grain			Ovalized		Pressure/Forced
	Centre Not Concentric to O/S				BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged	∐ <sup>i</sup>	nspecti	on Incomplete		Part Incorred	t	Weld
	Crushed	/Crimped.			Burrs		nstruct	ions Incomplete/Ur	nclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination		Mainte	nance		Part Moved		
	Heat Treat				Countersink	r	Mislabe	led		Positioned V	<b>Vrong</b>	

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

Folio

### **Linda Lacelle**

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Sent:

July-27-12 11:15 AM

To:

**David Shepherd** 

Cc:

psmith@dartaero.com; 'L Lacelle'; 'Isam El-Kassis'; 'Eric Downing'; Mike Petsche

Subject:

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I need to know if this will be acceptable or that we need to rework all the skids.

Thanks
Eric Downing
QC Corrdinator
Dart Aerospace LTD

										DQA:	Date:	
NCR: Y	es / No				WORK ORDER NON-O	CON	FOR	MANCE / UPD	ATE			
										QA Closed:	Date:	· · · · · · · · · · · · · · · · · · ·
Work Orde	ar.				DISPOSITION	Ì			AGAINST DE	PARTMENT	/PROCESS	
Work Orde					Rework	1 I		Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	lo.				Scrap	1	1	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is	1		noforming	Finishing	1	re/Packaging	Other
NCR N	lo.				Work Order Update	1		Large Fab	Composite		Supplier	
	-											
Root				Descri	ption of work order update		itial		Action			
Cause	Date	Step	Qty	(	or Non-conformance	Chie	ef Eng	Descri	ption	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling												
Operator	_											
Material											į	
Setup												
Other												
Process	_											
Supplier							;					
Training												
Unapproved						<u> </u>						
						AULT	CATE	GORY				
Landir F	ng Gear			_	General					1		1_ ,_ ,
-	Bending			_	Bend	-	Grain		_	Ovalized	_	Pressure/Forced
}	Centre Not Concentric to O/S			o/s	BOM/Route	$\vdash$	lardwa			Over/Under	·	Temperature/Cure
}	Cracks			-	Broken/Damaged	-		on Incomplete	. <del> </del>	Part Incorred	<del></del>	Weld
}	Crushed/0	urimped.		<u> </u>	Burrs	$\vdash$		ions Incomplete/Ur	nciear	Part Lost/Mi	ssing	Wrong Stock Pulled
}	Cuffs			-	Contamination	<b> </b>		nance	<u> </u>	Part Moved		
ļ	Heat Treat			1	Countersink	1 1	∕islabe	iea	1	Positioned V	vrong	

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Other

Power Loss/Surge

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 85825 Page 7 June-15-12 1:32:38 PM Item ID: D206-642-541 Accept \*N900040100\* Setup Start **Revision ID:** Replacement Skidtube Item Name: 15/06/2012 Start Oty: 1.00 Start Date: **Cust Item ID:** Required Date: 29/06/2012 Req'd Qty: 1.00 **Customer:** Reference: Run **Process Plan:** Approvals: Tooling: Date: Date: QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool # Plan Tool ID Accept Reject Reject Insp. Work Center ID Description Code Oty Qty Number Stamp Run Hours 200 QC5- Inspect part completeness to step on W/O 12107/32 \*200\* 0.00 Memo Quality Control 210 QC10- Inspect visual per QSI004- ground welds 17/04/30 0.00 Memo Quality Control

220

Pressure Wash per QSI005 4.3

0.00

\*220\*
HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

1 76 12-7:30

	-								
W/O:			W	ORK ORDER CHANG	ES		·······		• • • • • • • • • • • • • • • • • • • •
DATE	STEP	PRO	OCEDURE CHA	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Cate	egory:	NCR: Yes	s No DQ	A:	Date:	1
		solution:							
NCR:			WORK ORD	ER NON-CONFORMA	NCE (NC	R)			
DATE	STEP Description of NC			Corrective Action Section		Verific		Approval	Approval
	J.L.	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Dat	Secti	on C	Chief Eng	QC Inspector
		,							
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A/RSikaflex-291 122 136

Sikaflex expire date:

W/O:			NGES	ES						
DATE	STEP	PRO	OCEDURE CHAP	IGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
L										
Part No	:	PAR #:	Fault Categ	ory:	NC	R: Yes N	lo <b>DQ</b> /	A:	Date: _	
Resolution:		esolution:							•	•
NCR:		```	WORK ORDE	R NON-CONFOR	RMANCE	(NCR)				
DATE	STEP	Description of NC	Corrective Action			0:	Verific	ation	Approval	Approval
DAIL		Section A	Initial Chief Eng	Action Description Chief Eng	on 	Sign & Date	Section	on C	Chief Eng	QC Inspector
				·						
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270

HandFinish

Quality Control

Hand Finishing

HAND FINISHING RESOURCE #1

Inspect Nut Plate & Inserts

Memo

Memo

1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274 A/RSikaflex-291 122.130 Sikaflex expire date:

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3 A/R LPS-3

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive. A/RSikaflex-291 \_\_122\30 Sikaflex expire date:

0.00

0.00

12/08/01

Stop

Reject

Reject

Qty

Insp.

Number Stamp

Setup Start

Run

Accept

Qty

Page 9

W/O:		WORK ORDER CHANGES											
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector				
· . :													
Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes No DQA: Date:								
•	R	esolution:	Dispositio	n: <u></u>	_ QA: N/C C	losed:		Date: _					
NCR:			WORK ORD	ER NON-CONFORMA	NCE (NC	R)							
DATE		Description of NC		Corrective Action Section	on B	Verific	ation	Approval	Approval				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Date	& Secti		Chief Eng	QC Inspector				
	  -  -												

300

Packaging

QC21- Final Inspection - Work Order Release

0.00

\*300\*

Memo

Page 10

Insp.

0.00

Quality Control

W/O: `			WO	RK ORDER CHAN	GES				
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Categ	ory:	NCR: Yes No DQA: Date: _				
	R	esolution:	Disposition	·	QA: N/C (	Closed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORM	IANCE (NC	R)			
DATE	STEP	Description of NC	Corrective Action		ction B	Verific	cation	Approval	Approval
	SILF	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Dat	& Secti	ion C	Chief Eng	QC inspector
	. "								
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						,			

## **Picklist Print**

June-15-12 1:32:42 PM

Work Order ID: 85825

D206-642-541

Parent Item Name: Replacement Skidtube

\*85825\*

\*D206-642-541\*

**Start Date:** 15/06/2012

**Required Date: 29/06/2012** 

Start Qty: 1.00

Required Qty: 1.00

**Comments:** 

Parent Item:

IPP Rev:B05.09.23Revised per D206-642 Rev. JKJ/JLM

Added SS Wearplates & Gaskets JLM IPP Rev:C 07-02-23 replace NAS1515H3L to D3672-1 DD IPP Rev:D 07-12-06 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC IPP Rev:F 08-06-02 add comment DD verified by:EC IPP Rev:G 08-10-09 revise details DD verified byEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190		Manufactured	No			110	Each	106.0000	1	1			
*D2600-1- Extrusion Round 3" 206	190*								**			2-7	7-12
				Location		Loc (	<u>Qty</u>	Loc Code			<del></del>		
				HALL	(0(22		45		_		_		
				LG	69622		45 61		Ž		_		
				/	76912		61			/)	_		
D3285-1		Manufactured	No			110	Each	42.0000	1	1			
*D3285-1*									**			RE 12-09	7-16
				Location		Loc (	<u>Oty</u>	Loc Code					
				LG002			42		_		_		
		•			52511 52647		1 41		_		_		
D3282-041		Manufactured	No		32017	150	Each	9.0000	1	1	_		
*D3282-04 Float Web (206L/407)	.1*								**		'C	F 12	.7-17
				<b>Location</b>		Loc (	<u>Oty</u>	Loc Code					

LG 82651

Page 1

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W/O:			WORK ORDER CHANGES								
DATE	STEP	PRO	OCEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC inspector		
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Part No	:	PAR #:	Fault Categ	ory:	NCR: Yes	No <b>DQ</b>	\:	Date:			
		esolution:									
NCR:			WORK ORDE	ER NON-CONFORMA	NCE (NCR	)					
DATE	STEP Description of NC			Corrective Action Section		Verific		Approval	Approval		
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Work Order ID: 85825		*8582	<b>5</b> *						
Parent Item: D206-642-541				- 4 4 4					
	.:	^1)7()6	3-642-5	n41*					
Parent Item Name: Replacement Sl	aatube						rt Date: !5 art Qty: 1.		Required Date: 29/06/2012 Required Qty: 1.00
D2649	Manufactured	No		190	Each	181.0000	12	12	
*D2649* Cross Bolt Spacer							**		BE12/07/2 B85586 12
		Locat	<u>ion</u>	<u>Lo</u>	oc Qty	Loc Code			\$09000 · /~
		LG			38				
			77574		2				
			79502		8				_
			79503		17				_
			79564		4				_
			79565		7				
		LG00	1		143				_
			65317		1				
			68224		2				_
			68507		11				_
			71355		2				_
			72704		2				<del>-</del>
			72841		11	•			_
			73390		8				-
			73857		21				· <del>-</del>
			73858		53				-
			73859		4			· ·-	-
			73860 78020		4				-
			78583		6 2				-
			79566		16				-
D3275-1	Manufactured	No	,,,,,,	190	Each	105.0000	12	12	-
*D3275-1* Crossbolt Spacer							**		BE12/07/p
		<u>Locati</u>	<u>on</u>	Loc	e Qty	Loc Code			•
		LG			40	· · · · · · · · · · · · · · · · · · ·			
			85418		40		-		
		LG002			65			<del></del>	-
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DATE	STEP	PRO	CEDURE CHAI	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	•	PAR #:	Fault Categ	ory:	NCR: Yes	No DQ	<b>4:</b>	Date: _	
	R	esolution:	Disposition	:	_ QA: N/C C	losed:		Date: _	
NCR:		. V	VORK ORDE	R NON-CONFORMA	NCE (NC	R)	· · · · · · · · · · · · · · · · · · ·		
5.475	STEP	STEP Description of NC Section A	,	Corrective Action Section		Verific	ation	Approval Chief Eng	Approval
DATE			Initial Chief Eng	Action Description Chief Eng	Sign Date	& Section			QC Inspector
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Work Order ID: 85825

D206-642-541

\*85825\*

\*D206-642-541\*

114859

Parent Item Name: Replacement Skidtube

**Start Date:** 15/06/2012

**Required Date: 29/06/2012** 

Start Qty: 1.00

Required Qty: 1.00

CR3212-4-03

Parent Item:

Purchased

Manufactured

Purchased

No

250

250

Each 1,248.000

\*\*

D 12/08/01

\*CR3212-4-03\*

Cherry Rivet

FP002 ST331

110139 119017

Location

Location

908 2 906 250 Each

Loc Qty

340

340

2

31.0000

\*\*

Loc Code

12/08/01

\*D3415-041\*

Nut Plate

D3415-041

No

No

ST042 82151 Loc Qty Loc Code 31 31 Each 320.0000

\*\*

12/08/01

\*CCR264SS3-3\*

Cherry Rivet

CCR264SS3-3

Location Loc Qty ST331 320 113973 117849 77 119017 241

Loc Code

Dart Aerospace	Ltd
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DATE	STEP	PRO	OCEDURE CH	IANGE	B	,	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	•	PAR #:	Fault Ca	tegory:	NCR: Yes No DQA: Date:					
	Re	esolution:	Disposit	ion:	_ QA: N/	C Clo	sed:		Date:	
NCR:		,	WORK OR	DER NON-CONFORMA	NCE (N	ICR)				
DATE	STEP	Description of NC		Corrective Action Section			Verific	ation	Approval	Approval
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Work Order ID: 85825

Parent Item:

D206-642-541

Parent Item Name: Replacement Skidtube

\*85825\*

\*D206-642-541\*

**Start Date:** 15/06/2012

**Required Date: 29/06/2012** 

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

250

Each 1,737.000 78

12/08/01

\*ALS4-1032-130\*

Location		Le	oc Qty	Loc Code		
ST280	122474		205			
	119084		116			
	120671		89			
ST281			44			
	120807		36			
	120837		8			
ST282			1488			
	121269		1488			
		270	Each	5.0000	1	1

D3536-15

\*D3536-15\*

Gasket

12/08/61

Location Loc Qty Loc Code 85604~ 73318 FP002 81343 270 39.0000 Each

D3536-23 \*D3536-23\*

Gasket

Manufactured No

Manufactured

\*\*

Location		Loc Qty	Loc Code	
FP		36		
	85295	36		
FP002		3		
	74510	1		
	83377	2		
	8=20-			

05295

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Part No	•	PAR #:	Fault Category:N			NCR: Yes No DQA: Date:				
	R	esolution:	Dispositi	Disposition: Q			sed:		Date:	
NCR:		V	VORK ORI	DER NON-CONFORMA	NCE (I	NCR)				
DATE	STEP	Description of NC	Corrective Action Section			Verifica			ation Approval	Approval
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12/08/01 Location Loc Qty Loc Code 856051 15 81340 4 82065 11 D3536-39 Manufactured No 270 9.0000 Each \*\* 12/08/01 Gasket Location Loc Qty Loc Code FP 82252 9 D3535-15 Manufactured No 270 Each 21.0000 \*D3535-15\* \*\* 12/08/01 Wearshoe Location Loc Qty Loc Code FP001 21

81354

Manufactured

No

85291

Location Loc Qty Loc Code FP001 86191-28 67598 1 70815 1 78873 13 79849 1 83638 12

28.0000

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2

19

Each

270

\*D3535-35\*

D3535-35

Wearshoe

12/08/01

Page 5

**Required Date: 29/06/2012** 

Required Qty: 1.00

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W/O:			WC	RK ORDER CHANG	ES		· · · · · · · · · · · · · · · · · · ·	••
DATE	STEP	PRO	Ву	Date Q	ty Approval Chief Eng / Prod Mgr	Approval QC Inspector		
Part No	:	PAR #:	Fault Cate	Jory:	NCR: Yes	No DQA: _	Date: _	
Resolution:			Disposition	n: <u>'</u>	_ QA: N/C C	Date: _		
NCR:			WORK ORDE	R NON-CONFORMA	NCE (NCF	R)		
DATE	STEP	STEP Description of NC Section A		Corrective Action Section		Verification	on Approval	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C		
				•				
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Work Order ID: 85825

Location

Location

FP001

FP001

\*D206-642-541\*

69759 74513

Parent Item:

D206-642-541

Parent Item Name: Replacement Skidtube

**Start Date:** 15/06/2012

**Required Date: 29/06/2012** 

Start Qty: 1.00

Required Oty: 1.00

D3535-39

\*D3535-39\*

Manufactured No

Manufactured

Manufactured

270

Each 21.0000

\*\*

D3535-23

\*D3535-23\*

Wearshoe

No

2 18 270 Each

Loc Qty

Loc Qty

21

8.0000

Loc Code

Loc Code

\*\*

No

270

Each

4.0000

\*\*

\*\*

12/08/01

\*D3537-3\* Wearpad

D3537-3

Manufactured No Location FP002

78836 81363

270 Each

3

55

Loc\_Qty

Loc Code

71.0000

\*D3537-1\*

Wearpad

D3537-1

Location Loc Qty Loc Code FP002 71

81362 83254 83255

83256

84091

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Dart Aerospace Ltd
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DATE	STEP	PRO	PROCEDURE CHANGE					Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
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Part No: PAR #:		PAR #:	Fault Category: NO				NCR: Yes No DQA: Date:				
Resolution:			_ Disposit	ion:	QA: N/C Closed:				Date:		
NCR:		W	ORK OR	DER NON-CONFORMA	NCE	(NCR	)				
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Work Order ID: 85825	•		5825*							
Parent Item: D206-642-541  Parent Item Name: Replacement Sk	cidtube	*D	206-642-5	41*			tart Date: Start Qty:	15/06/2012 1.00		d Date: 29/06/2012 ed Qty: 1.00
*AN4C5A *AN4C5A*	Purchased	No		270	Each	181.0000	1 **	1		~(2/08/01=
D2646	Manufactured	No	Location ST355 112243 119017	<u>Lc</u> 270	181 135 46 Each	<u>Loc Code</u> 54.0000			_ _ _	, ,
*D2646* Aft Cap					•		**	1	- B	12/08/0)
			Location FP002		54 5 5 1 2 1 2 1 3 3 2	Loc Code				
*D3413-1 *D3413-1*	Manufactured	No		270	Each	55.0000	**	1	(P)	12/08/61
			Location ST420 77253 79233 ST464 80224 83307 83867	<u>Lo</u>	6 Oty 4 4 51 4 27 20	<u>Loc Code</u>				

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DRAWN BY

DATE

06.12.19

SHEET 1 OF 4 SKIDTUBE ASSEMBLY **NEW ISSUE** 

DART AEROSPACE USA, INC.

REV. D

SCALE

NTS

Α 04.03.15 В 04.08.09 MOVE SADDLE HOLE: 42.14 WAS 42.76 C 05.03.16 ADD -043; NEW INSERTS D 06.12.19 NEW INSERTS, SS WEARSHOE + GASKET

Qty -041	Qty -043	Part Number	Description
Х		D3274-041	SKIDTUBE ASSEMBLY
	Х	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	_ 1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
_ 1	1	D3535-39	WEARSHOE
1	1_	D3536-15	GASKET
1	1	D3536-23	GASKET
_1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

#### **GENERAL NOTES:**

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

2. DAMAGE TOLERANCE ON FWD BEND:

THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE

- 3. ALL HOLES DRILLED ON CENTERLINES.
- 4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
- WELDING TO BE DONE PER DART QSI 004.
- 6. FINISH: ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
  - POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
- 7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
- 8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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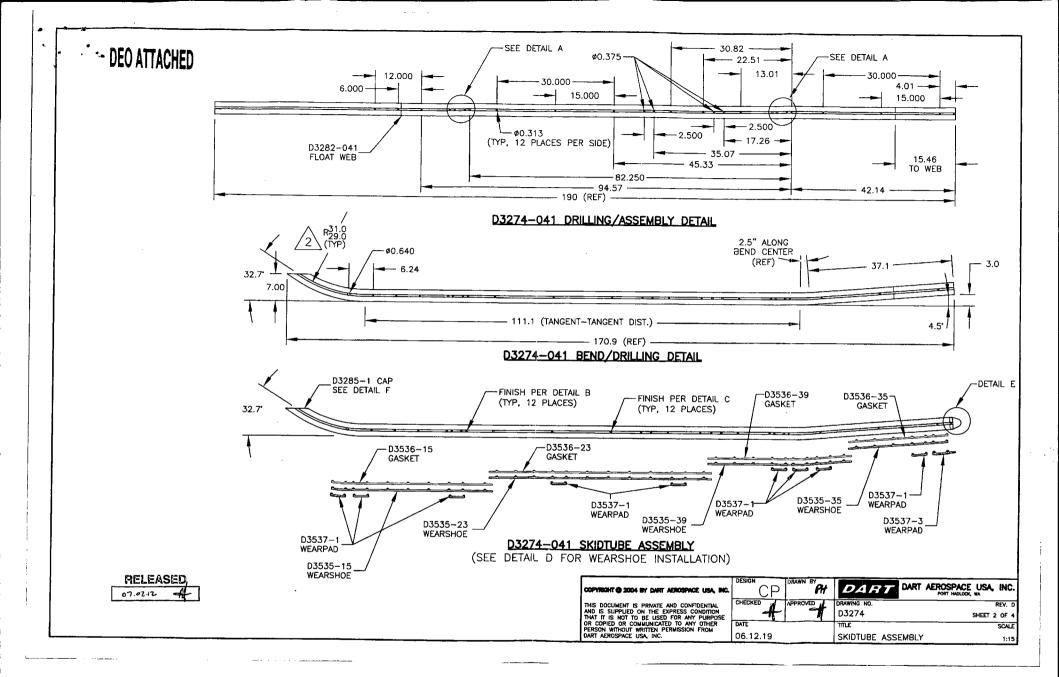
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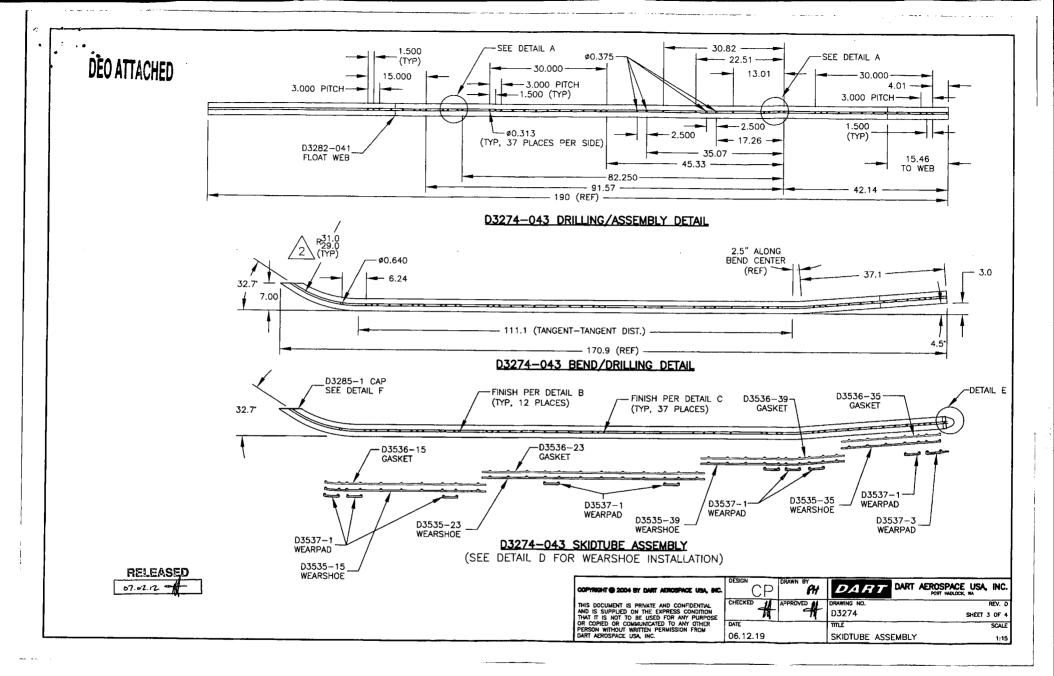
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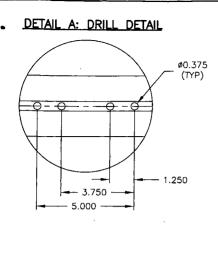
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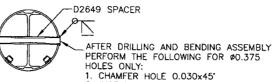


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DETAIL B FOR Ø0.375 HOLES ONLY

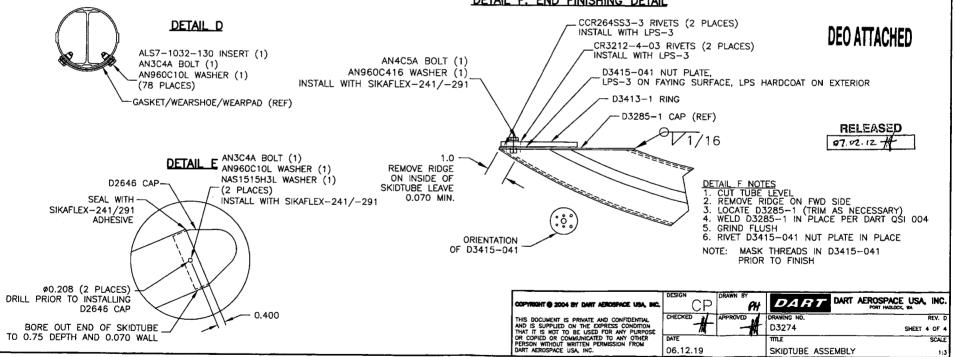


2. INSERT D2649 SPACER

- 3. WELD INTO PLACE AND GRIND FLUSH
- 4. C'BORE TO Ø0.313x0.75 DEEP

DETAIL C FOR Ø0.313 HOLES ONLY -D3275-1 SPACER CHAMFER 0.030x45\* (TYP)





### **Dart Aerospace Ltd**

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	R	esolution:	Disposition	n: <u>'</u>	QA: N/C C	losed:		Date:	
NCR:		•	WORK ORDI	ER NON-CONFORMAN	ICE (NCF	₹)			
DATE	STEP	Description of NC	Initial	Corrective Action Section Action Description	B Sign (		cation	Approval	Approval
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•		SKIDTUBE ASSEMBLY		RING ORDER D327		SHEET 1 OF 1	NTS
	DRAWN	CHECKED	ል MFG. APPR.	APPROVE	D MAP ,	DE APPR.	
	DATE 09.06.	17 DATE 09.06	23 DATE 69/	26/23 DATE	09/06/23	DATE 09.06.23	

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

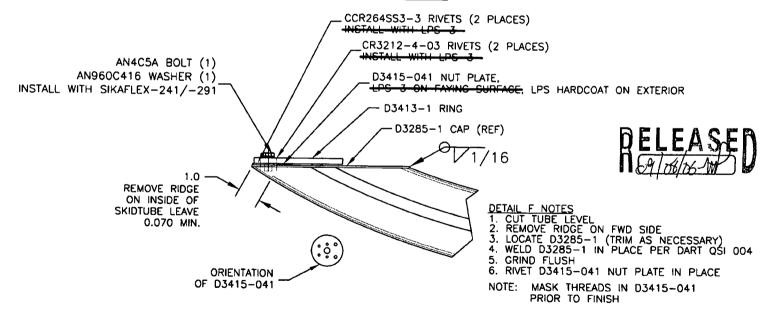
AMEND NOTE 8: "SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS."

COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

858ZS

#### **DETAIL F: END FINISHING DETAIL**



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Dart Aerospace Ltd	Dart	<b>Aeros</b>	pace	Ltd
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	. oopao	J Liu								
W/O:			WO	RK ORDER CHANG	ES	<del></del>				*
DATE	STEP	PRO	CEDURE CHAI	NGE	В	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
					ľ					
						_				
Part No	:	PAR #:	Fault Categ	jory:	NCR:	Yes N	o <b>DQ</b> /	A:	Date:	
	R	esolution:	Disposition	: '	_ QA: N/	C Clos	sed:		Date:	
NCR:		V	VORK ORDE	R NON-CONFORMA	NCE (I	VCR)				
DATE	OTED	Description of NC		Corrective Action Section			Verific	ation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		ign & Date	Section		Chief Eng	QC Inspector
						•				
								·		,
					,					:

NO. 299

# AWS D17.1.2001 QUALIFICATION TEST RECORD

Name: Barday Elliott	
Job#: 885/361	
Part#: 1206-642-541	<del></del>
Description: Skid	
Welding Process: Tig[Y Mig[]	
Base materiel:	
Current: AC[ / DC[ ]	

## **TEST REQUIREMENTS AND RESULTS**

Visual:	pass	fail[ ]
Incomplete Penetration:	pass	fail[ ]
Incomplete Fusion:	pass[1	fail[ ]
Cracks:	pass[ ]	fail[ ]
Overlap (cold lap)	pass[]	fail[ ]
Undercut:	pass[ ]	fail[ ]
Pin holes:	pass[ ]	fail[ ]
Porosity (surface):	pass[-]	fail[ ]
Coloration:	pass[1	fail[ ]
Burn through:	pass[-]	fail[ ]
	,	

Qualifier Ray Date of Test Coupon 12.07.26

Welder Dorclay Class Date of Test Coupon 12-07-26

The above named individual is qualified in accordance with AWS D17.1.2001 to weld